

T3-00010

**Application Number:** T3-00010

**Scientific Score:** 60 or below

**Title:** [REDACTED] Stem Cell Research Training Grant

*Specific names of individuals and institutions are blacked out to preserve applicant confidentiality where possible.*

### **Proposal Abstract as Submitted by Applicant**

[REDACTED] Stem Cell Research Training Program (SCRTP) proposes a Type III training program to train Post-doctoral and Clinical Fellows. It is anticipated that there will be 4 Post-doctoral and 2 Clinical Fellows trained per year for a period of 2 years, with the option to renew for an additional year. The [REDACTED] SCRTP will include both didactic courses and laboratory rotations that will encompass the strengths of researchers and clinicians at [REDACTED] and our collaborators at affiliated institutions [REDACTED], [REDACTED], and [REDACTED] and at [REDACTED] participating in this training program. The didactic courses will cover 6 subject areas: 1) Embryonic Stem Cell Biology; 2) Adult Stem Cell Biology; 3) Ethical, Social, Legal, and Political Implication of Stem Cell Research; 4) Neurobiology; 5) the Genetic and Cellular Basis of Disease; and 6) the Clinical Basis of Disease. The laboratory rotation courses will feature 4 technologies relevant to stem cell research: 1) Hematopoietic Stem Cell Isolation; 2) Culture, Growth, and Generation of the Embryonic Stem Cells; 3) Nuclear Transfer; and 4) DNA Transfer. These courses will be supplemented with ancillary activities including a Stem Cell Seminar Series, a Stem Cell Journal Club, and a yearly Stem Cell Meeting. The trainees will have research opportunities in the areas of embryonic stem cell growth and differentiation, genetic diseases, cell and gene therapy, cancer biology, neurobiology and neurodegenerative diseases. Scientist and clinicians from [REDACTED] and affiliate institutions will contribute their expertise to train postdoctoral and clinical fellows in stem cell biology, ethics, and practical laboratory skills.

### **Benefit of this Program to California**

This program will benefit the people and the state of California by providing high-quality training in the scientific, clinical, social, and ethical aspects of stem cell research to the scientists and clinicians who will develop and apply future therapies in this rapidly emerging field.

### **Summary of Review**

This program proposes a variety of didactic courses in embryonic stem cells, adult stem cells, and laboratory methods, which include DNA transfer into stem cells and stem cell isolation. Its nuclear transfer laboratory will be located at a Midwest university. The program includes both clinical and basic research, which is a strength. However, the program training focuses on techniques and general knowledge, not on the process of hypothesis-driven experimental research and design. The institution has 50 principal investigators focusing on infectious diseases and breast cancer, and has programs in gene therapy for cancer and other diseases. The faculty and director are good although few on-site members have experience with stem cells, and mentors are frequently not NIH-funded. The critical mass to mentor these students is small and none has made theoretical

T3-00010

breakthroughs. The application does not provide sufficient information to evaluate the quality of the applicant pool or the quality of existing training programs. The training environment provides good translational opportunities with an assisted reproductive research technology laboratory and a gene transfer facility. However, the stem cell research effort is both off-site and elective. The need to travel to the Midwest for embryonic stem cell work suggests a lack of depth and breadth.

### **Overall Strengths and Weaknesses**

This application has some areas of excellence, but is spotty. The institution has a good assisted reproduction laboratory and gene transfer program, but few faculty members have stem cell experience. Furthermore, the training emphasizes techniques, not basic concepts of stem cell biology. Training is off-site and sometimes out of state. Overall, the program is limited and somewhat fragmented.

### **Recommendations**

Not recommended for funding at this time.

	Pre	Post	Clinical	Total
Fellows Requested:	0	4	2	6
Fellows Recommended:	0	0	0	0

	Year 1	Total
Budget Requested:	\$ 499,099	\$ 1,497,297
Budget Recommended:	0	0